

# **Exhibit A**

*WAPP TECH LTD. PARTNERSHIP, ET AL. V. JPMORGAN CHASE BANK*

No. 4:23-cv-01137-ALM

# Claim Construction Hearing

November 8, 2024

# Court's Previous Constructions

**“[P]revious claim constructions in cases involving the same patent are entitled to substantial weight.”**

*TQP Development, LLC v. Intuit Inc.*, No. 2:12-cv-180-WCB, 2014 U.S. Dist. LEXIS 84057 at \*22 (E.D. Tex. June 20, 2014).

Claim Term	Court's Prior Construction (Wapp Agrees)	JPMC's Proposed Construction
<b>“emulate” / “simulate”</b>	Same meaning. Plain meaning. ( <i>Micro Focus</i> Order at 25)	Different meanings: “model the hardware [of]” / “represent features of”
<b>“application”</b>	Plain meaning. ( <i>Micro Focus</i> Order at 16)	“frame based application”
<b>“system for [testing/developing] an application for a mobile device”</b>	The preamble is limiting. Plain meaning. ( <i>Micro Focus</i> Order at 13)	Not limiting.

The parties in the Bank Cases agreed to the above constructions. Bank Case Order at 8.

# “simulate” / “emulate”

Claim Term	Wapp’s Proposed Construction	JPMC’s Proposed Construction
<b>“simulate”</b> (’192 Patent, Claims 1, 12-13; ’864 Patent, Claim 1; ’678 Patent, Claims 1, 3; ’811 Patent, Claims 1, 8, 22, 24; ’579 Patent, Claims 19-20, 33)	“emulate”	“represent features of”; Different than emulate.
<b>“emulate”</b> (’192 Patent, Claim 1, 60; ’11 Patent, Claim 26)	Plain meaning.	“model the hardware [of]”

# This Court's Prior Ruling in *MicroFocus*

The Court therefore hereby expressly rejects Defendants' proposed constructions. No further construction is necessary except to clarify that the patentee used the terms "simulate" and "emulate" interchangeably. *See O2 Micro*, 521 F.3d at 1362; *see also Finjan*, 626 F.3d at 1207; *Summit 6*, 802 F.3d at 1291.

The Court accordingly hereby construes the disputed terms as set forth in the following chart:

<u>Term</u>	<u>Construction</u>
"simulate"	"emulate"
"emulate"	Plain meaning

*Micro Focus* Order at 25



# The Claims Use “Simulate” and “Emulate” Interchangeably

## (12) United States Patent Poulin

(10) Patent No.: US 8,924,192 B1  
(45) Date of Patent: \*Dec. 30, 2014

(54) SYSTEMS INCLUDING NETWORK SIMULATION FOR MOBILE APPLICATION DEVELOPMENT AND ONLINE MARKETPLACES FOR MOBILE APPLICATION DISTRIBUTION, REVENUE SHARING, CONTENT DISTRIBUTION, OR COMBINATIONS THEREOF

(71) Applicant: Wapp Tech Corp., Red Deer (CA)

(72) Inventor: Donovan Paul Poulin, Kelowna (CA)

(73) Assignee: Wapp Tech Corp., Red Deer (CA)

(\*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

This patent is subject to a terminal disclaimer.

(21) Appl. No.: 13/673,692

(22) Filed: Nov. 9, 2012

### Related U.S. Application Data

(63) Continuation of application No. 12/759,543, filed on Apr. 13, 2010, now Pat. No. 8,332,203, which is a continuation of application No. 11/449,958, filed on Jun. 9, 2006, now Pat. No. 7,313,910.

(60) Provisional application No. 60/689,101, filed on Jun. 10, 2005.

(51) Int. Cl. G06F 11/00 (2006.01)

(52) U.S. Cl. USPC 703/13; 703/24; 703/27; 709/206; 709/246; 715/771

(58) Field of Classification Search CPC G06F 11/3447; G06F 11/3457 USPC 703/13, 24, 27; 709/206, 246; 715/771 See application file for complete search history.

### (56) References Cited

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2010/0017185 A1 1/2010 Bade et al.

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Applicant Interview Summary, Appl. No. May 6, 2010, 10 Pages.

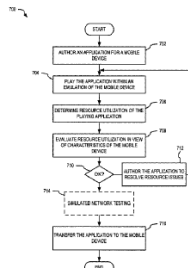
(Continued)

Primary Examiner — Thai Phan

### ABSTRACT

(57) A system and methods emulate an application executing in real time in a mobile device. The mobile device is emulated in real time using a model running on a processor extrinsic to the mobile device. The model is based on characteristics indicative of performance of the mobile device. The application is executed in real time within the model and the application executing in the model is monitored to determine resource utilization information by the application for the mobile device. The resource utilization information for the mobile device is displayed.

69 Claims, 14 Drawing Sheets



1. A system for developing an application for a mobile device comprising:  
a software authoring interface configured to simultaneously visually emulate, via one or more profile display windows, a plurality of network characteristics indicative of performance of the mobile device when executing the application; wherein the software authoring interface is further configured to simulate a network connection state encountered by the mobile device.

## 8003



(10) **Patent No.:** US 9,298,864 B2  
(45) **Date of Patent:** \*Mar. 29, 2016

(52) *G06F 11/34* (2006.01)  
*G06F 9/44* (2006.01)  
**U.S. Cl.**

CPC ..... *G06F 17/022* (2013.01); *G06F 8/30*  
(2013.01); *G06F 8/71* (2013.01); *G06F*  
*11/3457* (2013.01); *G06F 9/455* (2013.01);  
*G06F 2201/86* (2013.01)

(58) **Field of Classification Search**  
USPC ..... 703/22, 23, 24; 717/105, 129; 370/254  
See application file for complete search history.

(56) **References Cited**

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2014,008,163	A1 *	2/2014	Douglas .....	703/22

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**ABSTRACT**  
A system, method and software product emulate and profile

an application playing on a mobile device. The mobile device is emulated using a model based upon characteristics related to performance of the mobile device. The application is

**50 Claims, 23 Drawing Sheets**

**50 Claims, 23 Drawing Sheets**



software configured to simulate, via one or more profile display windows, a plurality of network characteristics indicative of performance of the mobile device when executing the application; wherein the network characteristics are based on data of interaction with networks in non-simulated environments.

10. The system of claim 9, wherein the one or more virtual users emulate actions of real user behavior.

11. The system of claim 10, wherein the actions that are performed by one or more virtual users are recorded to generate a script which can be modified to emulate real user behavior.

# The Claims Use “Simulate” and “Emulate” Interchangeably

16. The system of claim 1, wherein the software authoring interface has access to real-time interaction with network operators to measure and emulate network characteristics.

‘192 Claim 16

16. The system of claim 1, wherein the software has access to real-time interaction with network operators to measure and simulate network characteristics.

‘678 Claim 16

60. A system comprising:  
an application configured to enable a user to modify a photo on the mobile device, wherein the application is developed using a software authoring platform configured to simultaneously visually emulate, via one or more profile display windows, a plurality of hardware characteristics indicative of performance of the mobile device when executing the application.


‘192 Claim 60

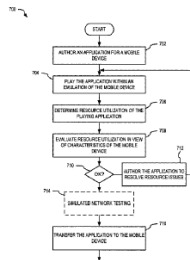
15. A non-transitory, computer-readable medium comprising software instructions for developing an application to be run on a mobile device, wherein the software instructions, when executed, cause a computer to:  
select one or more characteristics associated with a mobile device;  
monitor utilization of one or more resources of the mobile device over time by an application running on a simulation of the mobile device;

‘579 Claim 15



# The Specification Uses “Simulate” and “Emulate” Interchangeably

 US008924192B1		
(12) <b>United States Patent</b> <b>Poulin</b>	(10) <b>Patent No.:</b> (45) <b>Date of Patent:</b>	<b>US 8,924,192 B1</b> <b>*Dec. 30, 2014</b>
<b>(54) SYSTEMS INCLUDING NETWORK SIMULATION FOR MOBILE APPLICATION DEVELOPMENT AND ONLINE MARKETPLACES FOR MOBILE APPLICATION DISTRIBUTION, REVENUE SHARING, CONTENT DISTRIBUTION, OR COMBINATIONS THEREOF</b>		
<b>(71) Applicant:</b> Wapp Tech Corp., Red Deer (CA) <b>(72) Inventor:</b> Donovan Paul Poulin, Kelowna (CA) <b>(73) Assignee:</b> Wapp Tech Corp., Red Deer (CA) <b>(*) Notice:</b> Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days. This patent is subject to a terminal disclaimer.		
<b>(21) Appl. No.:</b> 13/673,692 <b>(22) Filed:</b> Nov. 9, 2012		
<b>Related U.S. Application Data</b> <b>(63)</b> Continuation of application No. 12/759,543, filed on Apr. 13, 2010, now Pat. No. 8,332,203, which is a continuation of application No. 11/449,958, filed on Jun. 9, 2006, now Pat. No. 7,313,910. <b>(60)</b> Provisional application No. 60/689,101, filed on Jun. 10, 2005. <b>(51) Int. Cl.</b> <b>G06F 11/00</b> (2006.01) <b>(52) U.S. Cl.</b> USPC ..... 703/13; 703/24; 703/27; 709/206; 709/246; 715/771 <b>(58) Field of Classification Search</b> CPC ..... G06F 11/3447; G06F 11/3457 USPC ..... 703/13, 24, 27; 709/206, 246; 715/771 See application file for complete search history.		
<b>(56) References Cited</b> U.S. PATENT DOCUMENTS 7,107,049 B2 9/2006 Barberis et al. 7,313,772 B2 12/2007 Hekmatpour et al. 7,546,298 B2 6/2009 Thilaj et al. 7,813,910 B1 10/2010 Poulin 2002/0188713 A1 12/2002 Bloch et al. 2006/0036941 A1 2/2006 Neil 2007/0005324 A1 1/2007 Gong et al. 2007/0019769 A1 1/2007 Green et al. 2007/0127426 A1 6/2007 Watters et al. 2007/0142091 A1 6/2007 Gubero et al. 2007/0174490 A1 7/2007 Choi et al. 2007/0288424 A1 12/2007 Neil et al. 2008/013282 A1 12/2008 Warila et al. 2010/0017185 A1 1/2010 Bade et al.		
<b>OTHER PUBLICATIONS</b> Pre-Brief Appeal Conference Decision, U.S. Appl. No. 11/449,958, Feb. 9, 2010, 1 Page. Applicant Interview Summary, Appl. No. May 6, 2010, 10 Pages. (Continued)		
<b>Primary Examiner</b> — Thai Phan <b>(57) ABSTRACT</b> A system and methods emulate an application executing in real time in a mobile device. The mobile device is emulated in real time using a model running on a processor extrinsic to the mobile device. The model is based on characteristics indicative of performance of the mobile device. The application is executed in real time within the model and the application executing in the model is monitored to determine resource utilization information by the application for the mobile device. The resource utilization information for the mobile device is displayed.		
<b>69 Claims, 14 Drawing Sheets</b>		



devices in targeted geographical markets worldwide as well as real-time interaction with network Operators to measure and emulate network characteristics within each market is

In step 1316, method 1300 selects network characteristics to simulate. In one example of step 1316, the user utilizes lists 1202, 1204 and 1206 of window 1200 to specify network characteristics for simulation by simulator 810.

FIG. 8 is a block diagram illustrating interaction of emulator 101 with an operator development server 808 via Internet 822 for simulating playing of application 104 within a mobile device connected to a wireless network (e.g., a mobile phone wireless network). FIGS. 9, 10, 11 and 12 show exem-

# The Specification Uses “Simulate” and “Emulate” Interchangeably

part of emulator 101 into memory 132 for execution. Emulator 101 then generates mobile device model 102, based upon characteristics 115, within memory 132. Emulator 101 then loads and plays application 104 within model 102. Emulator

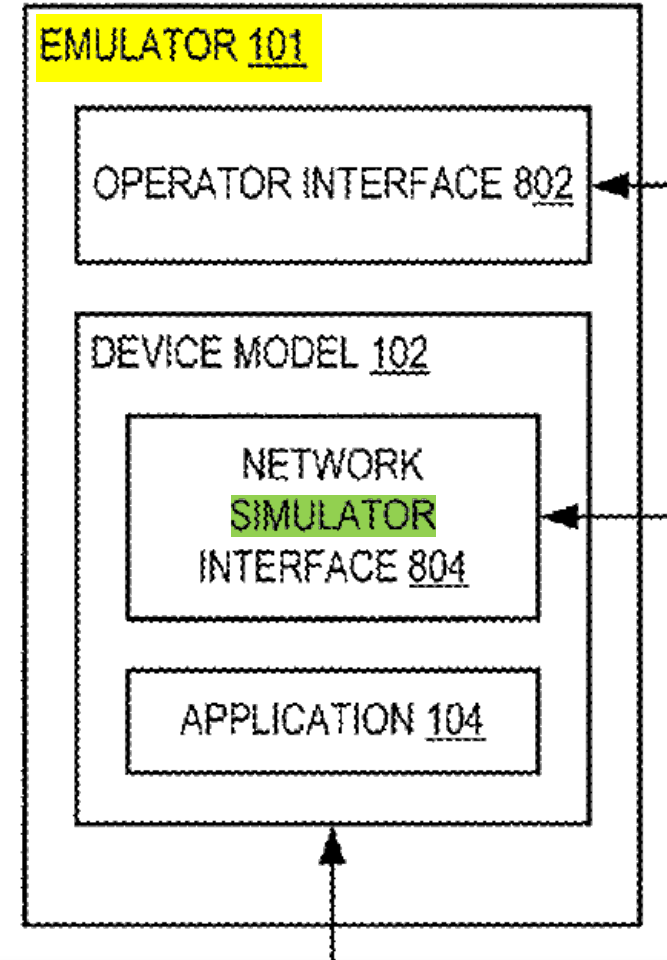
‘192 at 7:5-8

FIG. 1. Further, emulator 101 may download additional model data 820 for use within device model 102 for increasing simulated functionality of model 102 (e.g., simulating additional handset functionality and/or network functionality). The user of emulator 101 may, for example, purchase

910 at 10:58-62

utilizing Internet 822). In this embodiment, simulator 810 may operate within emulator 101, within authoring environment 122 or within computer 130 to provide interaction with model 102.

‘192 at 13:20-24



‘192 at Fig. 8

# Chase Admits “Simulate” and “Emulate” Include Each Other

'192 patent, 12:3-13. The specification also describes “simulating” the application, which means playing the application on an emulated device model in a simulated network environment. *Id.*,

Chase’s Response Brief at 8.

122. As I described above, with respect to the term “emulate,” at most, the emulator can simulate (*i.e.*, represent features of the mobile device via emulation), but the simulator is never described to model hardware of any kind. In other words, the emulator can emulate and simulate, but the simulator can *only* simulate and cannot “emulate.” The terms are not

Chase Expert Dec. (Ex. 9) at ¶122

a software authoring interface configured to simultaneously visually emulate, via one or more profile display windows, a plurality of ~~network hardware~~ characteristics indicative of performance of the mobile device when executing the application, wherein the software authoring interface is further configured to simulate a network connection state encountered by the mobile device.

'192 File History – Claim Amendment Dated **Oct. 17, 2014** (this claim issued as '192 cl. 1)

59. (New) The system of claim 44, wherein the software authoring interface has access to real-time interaction with network operators to measure and emulate network characteristics.

'192 File History – Claim Amendment Dated **April 7, 2014** (this claim issued as '192 cl. 16)



# Extrinsic Confirmation

**simulate** — 1. To use the behavior of another system to represent certain behavioral features of a physical or abstract system. 2. To represent the functioning of a device, system, or computer program by another; e.g., to represent one computer by another, to represent the behavior of a physical system by the execution of a computer program, or to represent a biological system by a mathematical model. To represent, by imitation, the functions of one system or process by means of another. **See emulate.**

Dictionary of Modern Electronics (Ex. 11) at 697

**emulate** — 1. To imitate one system with another, such that the imitating system accepts the same data, executes the same programs, and achieves the same results as the imitated system. 2. To imitate a computer system by a combination of hardware and software that allows programs written for one computer to be run on another. **See simulate.**

Dictionary of Modern Electronics (Ex. 11) at 257

“application”

Claim Term	Wapp’s Proposed Construction	JPMC’s Proposed Construction
“application”  (’192 Patent, Claims 1, 60, 65; ’864 Patent, Claims 1, 8; ’678 Patent Claim, 1; ’811 Patent, Claims 1-2, 9, 22, 26; ’579 Patent, Claims 15-16, 20)	Plain meaning.	“frame based application”

# Chase Admits the Ordinary Meaning is Not Limited to Frame-Based

objects that interact with one another. As of the asserted priority date of the Asserted Patents, a POSA would have known that programmers commonly relied on object-oriented languages to develop more advanced applications for the Internet age and for mobile devices. For example, '192 patent refers to "Java, .NET and BREW" as examples of early frontrunners for development with mobile device targets. ('192 patent, 3:40-41). Programs for each of these platforms could be written with an associated object oriented language: Java language to develop for the Java

Chase Dec. (Ex. 9) ¶166

69. Applications for the Flash Player, or any of the platforms described above, could be written using different tools. By the time of the Asserted Patents a class of software known as integrated development environments, or IDEs, was commonly used. A POSA would have been aware of such IDEs and their use for application development. IDEs are generally an integrated

Chase Dec. (Ex. 9) ¶169

“The words of a claim are generally given their ordinary and customary meaning ... There are only two exceptions to this general rule:

- 1) when a patentee sets out a definition and acts as his own lexicographer, or
- 2) when the patentee disavows the full scope of a claim term either in the specification or during prosecution.”

*Thorner v. Sony Comput. Entm't Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012)

“[T]he standard for disavowal is ***exacting***, requiring ***clear and unequivocal evidence*** that the claimed invention includes or does not include a particular feature. Ambiguous language cannot support disavowal.” *Poly-Am., L.P. v. API Indus., Inc.*, 839 F.3d 1131, 1137 (Fed. Cir. 2016) .

“[T]o act as its own lexicographer, a patentee must ‘***clearly set forth a definition*** ... the patentee must ‘***clearly express an intent***’ to ***redefine the term.***” *Thorner* at 1365.




# Chase Does Not Cite Any Disavowal or Definition

- Chase does not try to argue disavowal or definition.
- Chase cites primarily to the Figure 1 embodiment.

FIG. 1A shows one exemplary embodiment of a system 100 for emulating and profiling a frame based application 104 playing on a mobile device 114 that includes a Flash Player 116. System 100 is shown with an emulator 101, a profiler 106 and a display 110. Emulator 101 generates a mobile device model 102, based upon mobile device characteristics 115 of mobile device 114. Model 102 emulates mobile device 114 to play frame based application 104 and may, for example, generate an emulated mobile device display 111 that represents mobile device 114. Emulated mobile device display 111 may be interactive to allow a user to interact (in a manner similar to interacting with device 114) with application 104 while playing within model 102.


# The Federal Circuit Warns Against Confining Claims to Embodiments

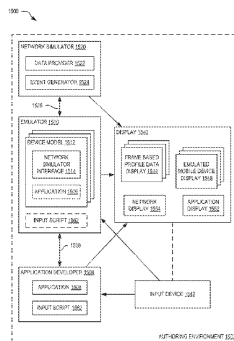


“[A]lthough the specification often describes very specific embodiments of the invention, we have repeatedly warned against confining the claims to those embodiments. ... [W]e have expressly rejected the contention that if a patent describes only a single embodiment, the claims of the patent must be construed as being limited to that embodiment.”

*Phillips v. AWH Corp.*, 415 F.3d 1303, 1323 (Fed. Cir. 2005) (en banc).

# The Claims Show "Application" is Not Limited to "Frame Based"

 US009298864B2		
(12) <b>United States Patent</b> <b>Poulin</b>	(10) <b>Patent No.:</b> <b>US 9,298,864 B2</b>	(45) <b>Date of Patent:</b> <b>*Mar. 29, 2016</b>
(54) <b>SYSTEM INCLUDING NETWORK SIMULATION FOR MOBILE APPLICATION DEVELOPMENT</b>	<i>G06F 11/34</i> (2006.01) <i>G06F 9/44</i> (2006.01)	
(71) Applicant: <b>WAPP Tech Corp.</b> , Red Deer (CA)	(52) <b>U.S. CL.</b> <i>CPC</i> ..... <i>G06F 17/5022</i> (2013.01); <i>G06F 8/30</i> (2013.01); <i>G06F 8/71</i> (2013.01); <i>G06F 11/3457</i> (2013.01); <i>G06F 9/455</i> (2013.01); <i>G06F 2201/86</i> (2013.01)	
(72) Inventor: <b>Donavan P. Poulin</b> , Kelowna (CA)	(58) <b>Field of Classification Search</b> USPC ..... 703/22, 23, 24; 717/105, 129; 370/254 See application file for complete search history.	
(73) Assignee: <b>WAPP TECH CORP.</b> , Red Deer (CA)	(56) <b>References Cited</b> <b>U.S. PATENT DOCUMENTS</b>	
(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.  This patent is subject to a terminal disclaimer.	7,813,910 B1 * 10/2010 Poulin ..... 703/22 8,014,995 B2 * 9/2011 Marsyla et al. .... 703/23 8,108,201 B2 * 1/2012 Ragunath et al. .... 703/24 8,150,675 B1 * 4/2012 Ottmann et al. .... 703/23 8,255,878 B2 * 8/2012 Aoki et al. .... 717/129 8,332,203 B1 * 12/2012 Poulin ..... 703/22 8,589,140 B1 * 11/2013 Poulin ..... 703/22 8,694,954 B2 * 4/2014 Ortiz ..... 717/105 8,885,513 B2 * 11/2014 Ewing ..... 370/254 2014/0081616 A1 * 3/2014 Poulin ..... 703/22  * cited by examiner	
(21) Appl. No.: <b>14/084,321</b>		
(22) Filed: <b>Nov. 19, 2013</b>		
(65) <b>Prior Publication Data</b> US 2014/0081616 A1 Mar. 20, 2014		
<b>Related U.S. Application Data</b>		
(60) Division of application No. 12/705,913, filed on Feb. 15, 2010, now Pat. No. 8,589,140, and a continuation-in-part of application No. 11/449,958, filed on Jun. 9, 2006, now Pat. No. 7,813,910.	<b>Primary Examiner</b> — Thai Phan	
(60) Provisional application No. 61/152,934, filed on Feb. 16, 2009, provisional application No. 60/689,101, filed on Jun. 10, 2005.	(57) <b>ABSTRACT</b> A system, method and software product emulate and profile an application playing on a mobile device. The mobile device is emulated using a model based upon characteristics related to performance of the mobile device. The application is played and monitored within the model to determine resource utilization of the application for the mobile device.	
(51) <b>Int. Cl.</b> <i>G06F 9/455</i> (2006.01) <i>G06F 17/50</i> (2006.01)	<b>50 Claims, 23 Drawing Sheets</b>	



20. A method for emulating an application playing on an application player in each of a plurality of mobile devices, the method comprising:

retrieving characteristics, indicative of performance, for each of the mobile devices; emulating each of the mobile devices in real time using respective models running on a processor extrinsic to the mobile devices, wherein each of the models is based on the retrieved characteristics; playing the application in real time using the application player within each of the models; monitoring the application playing in each of the models to determine resource utilization information by the application for each of the mobile devices; and displaying the resource utilization information for at least one of the mobile devices.

25. The method of claim 20, further comprising identifying one or more frames of a frame-based application where resource utilization of the application exceeds a maximum resource availability threshold of any one of the mobile devices.

# The Claims Show “Application” is Not Limited to “Frame Based”

29. A method for emulating an **application** playing on at least one mobile device comprising:

receiving instructions to select each said mobile device from a list including characteristics indicative of performance of each said mobile device; emulating each said mobile device using a respective model, wherein each said model is based upon the characteristics of a respective said mobile device; playing the application in real time within each said model; monitoring each said model to determine resource utilization of the application for each said mobile device; and displaying the resource utilization information.

31. A method for emulating a **frame-based application** playing on a mobile device that includes an application player, the method comprising:

retrieving characteristics indicative of performance of the mobile device; emulating, on a processor extrinsic to the mobile device, the mobile device as a model based upon the retrieved characteristics; playing the application in real time within the model; monitoring the application playing in the model to determine utilization of the mobile device's resources by the application; identifying a frame of the application where resource utilization by the application exceeds a maximum resource availability threshold of the mobile device; and displaying the identified frame to indicate a crash of the application on the emulated mobile device.



# The Specification Shows “Application” is Not Limited to “Frame Based”

(57)

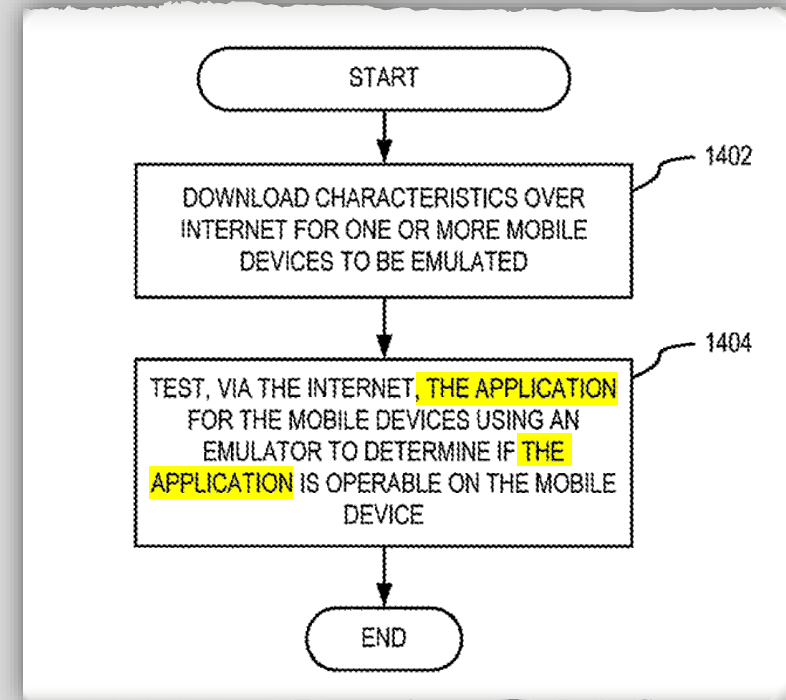
## ABSTRACT

A system and methods emulate **an application** executing in real time in a mobile device. The mobile device is emulated in real time using a model running on a processor extrinsic to the mobile device. The model is based on characteristics indicative of performance of the mobile device. **The application** is executed in real time within the model and the application executing in the model is monitored to determine resource utilization information by **the application** for the mobile device. The resource utilization information for the mobile device is displayed.

‘192 Patent at Abstract

FIG. 14 is a flowchart illustrating one method for determining whether **an application** of a mobile device is operable.

‘192 Patent at 3:24-25



‘192 Patent Fig. 14

In step 702, method 700 authors **an application** for a mobile device. **In one example** of step 702, a user interacts with frame based application development tool 112 to author application 104.

‘192 Patent at 9:50-54


# Provisional Discusses Non-Frame-Based Application Development Tools

Early frontrunners like Java, .NET and BREW have taken great strides in the early/formative years, the likes of SurfKitchen, Action Engine, MFORMA and others taking SMS, MMS and mobile gaming to exciting consumer levels. However, with a market primarily based on the Java and J2ME platform, mobile content and entertainment revenues achieved less than 3% of the total mobile service revenue and less than 19% of non-voice revenue.<sup>2</sup>

Is this a failure? Based on current market projections and a weighted ARPU, total consumer spending on mobile content will only achieve approximately 72Bn by 2008. With the inherent runtime limitations of these current languages, consumer uptake of mobile content will reach approximately 1/7 or 14% of the total projected levels by 2008.<sup>3</sup> Therefore, either Java and the early frontrunners will substantially evolve to become a more consumer-adapted platform to meet an unprecedented market need, or a new platform will emerge to drive mobile commerce to projected levels.

This year marks the 10-year anniversary of the Java platform. It was on May 22<sup>nd</sup>, 1995 that Sun Microsystems first unveiled its Java technology to the world. In the past year, Java was one of the largest funded technology platforms in one of the largest emerging venture markets, mobile commerce.<sup>8</sup> And yet, in the past 4 months NOKIA and Samsung, two of the top three handsets makers, have now signed strategic licensing agreements with Macromedia to ship the Flash Lite platform on their handsets.<sup>9</sup> This in addition to significant licensing agreements with NTT DoCoMo and KDDI in Japan and Bellwave in Korea. Why a potential paradigm shift in mobile platforms?<sup>10</sup> Past precedent can perhaps point to the answer.

## No Prior Party has Ever Tried to Limit “Application” to “Frame Based”

- 
- Neither Micro Focus, Wells Fargo, nor Bank of America believed “application” was limited to “frame based application.”
  - During prosecution, Wapp never raised any “frame based” distinction over the prior art.



# “network characteristics indicative of performance of the mobile device”

Case 4:25-cv-01137-ALM Document 74-1 Filed 11/11/24 Page 24 of 49 PageID #: 8026

Claim Term	Wapp's Proposed Construction	JPMC's Proposed Construction
<b>“network characteristics indicative of performance of the mobile device when executing the application”</b> (’192 Patent, Claim 1; ’864 Patent, Claim 1)	Plain meaning.	Indefinite.
<b>“operator network characteristics including at least bandwidth availability indicative of performance of the mobile device when executing the application”</b> (’678 Patent Claim, 1)	Plain meaning.	Indefinite.



# The Court has Construed “Network Characteristics” and “Indicative of”

The Court accordingly hereby construes “**network characteristics**” to have its **plain meaning**.

The Court therefore hereby construes “**indicative of**” to have its **plain meaning**.

Bank Case Order at 28, 37

Chase does not challenge these constructions or argue that these terms are indefinite.

# The Claims Include an Example of “Network Characteristics”



US009971678B2

## (12) United States Patent Poulin

(10) Patent No.: US 9,971,678 B2  
(45) Date of Patent: \*May 15, 2018

(54) SYSTEMS INCLUDING DEVICE AND NETWORK SIMULATION FOR MOBILE APPLICATION DEVELOPMENT

(71) Applicant: WAPP TECH CORP., Red Deer (CA)

(72) Inventor: Donovan Paul Poulin, Kelowna (CA)

(73) Assignee: WAPP TECH CORP., Red Deer, Alberta (CA)

(\*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 500 days. This patent is subject to a terminal disclaimer.

(21) Appl. No.: 14/581,475

(22) Filed: Dec. 23, 2014

(65) Prior Publication Data  
US 2015/0113511 A1 Apr. 23, 2015

Related U.S. Application Data  
(63) Continuation of application No. 13/673,692, filed on Nov. 9, 2012, now Pat. No. 8,924,192, which is a continuation of application No. 12/759,543, filed on Apr. 13, 2010, now Pat. No. 8,332,203, which is a continuation of application No. 11/449,958, filed on Jun. 9, 2006, now Pat. No. 7,813,910.

(60) Provisional application No. 60/689,101, filed on Jun. 10, 2005.

(51) Int. Cl.  
G06F 17/50 (2006.01)  
G06F 11/36 (2006.01)  
G06F 11/34 (2006.01)  
G06Q 20/14 (2012.01)

(52) U.S. CL.  
CPC ..... G06F 11/3688 (2013.01); G06F 11/3457 (2013.01); G06F 17/5009 (2013.01); G06Q 20/145 (2013.01); G06F 2201/86 (2013.01)

(58) Field of Classification Search  
USPC ..... 703/15; 22; 24; 27; 709/206; 246; 715/771; 455/425  
See application file for complete search history.

(56) References Cited

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7,313,772 B2 12/2007 Hekmatpour et al.  
7,546,298 B2 6/2009 Halaj et al.  
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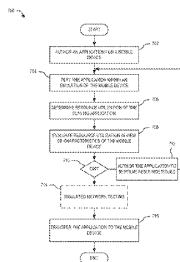
(Continued)

Primary Examiner — Thai Phan  
(74) Attorney, Agent, or Firm — Sheridan Ross P.C.

(57) ABSTRACT

A system and methods to emulate an application executing in real time in a mobile device. The mobile device is emulated in real time using a model running on a processor extrinsic to the mobile device. The model is based on characteristics indicative of performance of the mobile device. The application is executed in real time within the model and the application executing in the model is monitored to determine resource utilization information by the application for the mobile device. The resource utilization information for the mobile device is displayed.

50 Claims, 14 Drawing Sheets



1. A system for testing an application for a mobile device comprising:  
a software testing interface configured to simultaneously visually simulate, via one or more profile display windows, a plurality of operator network characteristics including at least bandwidth availability indicative of performance of the mobile device when executing the application; wherein the bandwidth availability is based at least in part on bandwidth data predetermined from interactions between one or more mobile devices and at least one operator network.

# The Specification Includes Many Examples of “Network Characteristics”

Window 1200 shows a pull-down list 1202 of network characteristics that may be simulated by simulator 810. For example, simulator 810 may allow control of scripted events (e.g., cell tower identification, service message, bandwidth, etc.), consumer events (e.g., checking email, checking messages, browsing network, available minutes, selecting images, etc.) and incoming events (e.g., phone calls, WAP Messages, receiving MMS, receiving SMS, etc.). Based upon selection from list 1202, a second list may be presented to allow further simulation requirements to be entered. In the example of window 1200, consumer events entry of list 1202 was selected, resulting in display of pull-down list 1204 from which check messages was selected resulting in the display of pull-down list 1206. In this example, the user may select ‘send message’ from list 1206 to evaluate the performance of application 104 while a message is received from the network.

**“select one or more characteristics associated with a mobile device”**

Claim Term	Wapp’s Proposed Construction	JPMC’s Proposed Construction
<b>“select one or more characteristics associated with a mobile device”</b> (‘579 Patent, Claim 15)	Plain meaning.	Indefinite.



# The Specification Includes Many Examples of “Mobile Device Characteristics”

TABLE 1	
Mobile Device Characteristics	
Parameter	Value
Name	NOKIA 3650
Processor	ARM 4T
Processor Speed	104 MHz
Storage Access Speed	5.88 files/second
RAM Size	256 MB
Storage Size	512 MB
Display Width	256
Display Height	394
Pixel Depth	24
Processor Availability	60%
RAM Availability	60%
Storage Availability	40%

# The Specification Includes Examples of Selecting Characteristics

FIG. 5 shows one exemplary window 500 that includes display 300 of FIG. 3 and display 400 of FIG. 4 and an exemplary user interface. In particular, window 500 shows **selection** of a mobile device (i.e., NOKIA 3650 in this example) from a pull-down list 502 that results in display of **characteristics 504 of the selected mobile device**. Characteristics 504 may represent characteristics 115 of FIG. 1A, for example. Window 500 facilitates interaction with model 102 through display 400 and monitoring of resource utilization of application 104 through window 300. Further, pull-down list 502 allows easy **selection** of further mobile devices upon which application 104 is to be profiled.

'192 Patent at 5:55-6:10

Optionally, the user may **select** menu item 901, FIG. 9, to immediately locate, download and import **modeling characteristics** into emulator 101. These characteristics may be stored within storage 134 of computer 130, FIG. 1B.

'192 Patent at 12:28-31

# The Court Contrasted Claim 1 (Indefinite) with Claim 15 (Definite)

language and should therefore be rejected. (*Id.* at pp. 29–30). Further, Defendants argue that the lack of antecedent basis is underscored by Claim 15 of the '579 Patent, which *does* recite an operation of “select[ing] one or more characteristics associated with a mobile device.” (*Id.* at

Bank Case Order at 38

- The Court found claim 1 indefinite for lack of antecedent basis.
- Claim 15 has explicit antecedent basis; Chase does not disagree.

# “the physical mobile device”

Claim Term	Wapp’s Proposed Construction	JPMC’s Proposed Construction
“the physical mobile device” (‘579 Patent, Claims 15-16)	Plain meaning.	Indefinite.



# The Claim Provides Explicit Antecedent Basis

15. A non-transitory, computer-readable medium comprising software instructions for developing an application to be run on a mobile device, wherein the software instructions, when executed, cause a computer to:

- select one or more characteristics associated with a mobile device;
- monitor utilization of one or more resources of the mobile device over time by an application running on a simulation of the mobile device;
- display a representation of one or more of the monitored resource;
- correspond the utilization of a specific displayed resource at a given time with one or more functions, or code, or both of the application responsible for that utilization;
- initiate transmission of the application on a simulation of the mobile device, or to the physical mobile device, or both.

## (12) United States Patent Poulin

(10) Patent No.: US 10,691,579 B2  
(45) Date of Patent: Jun. 23, 2020

(54) SYSTEMS INCLUDING DEVICE AND NETWORK SIMULATION FOR MOBILE APPLICATION DEVELOPMENT

(71) Applicant: Wapp Tech Corp., Red Deer (CA)

(72) Inventor: Donovan P. Poulin, Kelowna (CA)

(73) Assignee: WAPP TECH CORP., Alberta (CA)

(\*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: 15/083,186

(22) Filed: Mar. 28, 2016

### (65) Prior Publication Data

US 2016/0314060 A1 Oct. 27, 2016

### Related U.S. Application Data

(60) Division of application No. 14/084,321, filed on Nov. 19, 2013, now Pat. No. 9,208,864, which is a division of application No. 12/705,913, filed on Feb. 15, 2010, now Pat. No. 8,589,140, which is a continuation-in-part of application No. 11/449,958, filed on Jun. 9, 2006, now Pat. No. 7,813,910.

(60) Provisional application No. 61/152,934, filed on Feb. 16, 2009, provisional application No. 60/689,101, filed on Jun. 10, 2005.

(51) Int. Cl.  
G06F 9/455 (2018.01)  
G06F 11/36 (2006.01)  
G06F 8/71 (2018.01)  
G06F 11/34 (2006.01)  
G06F 30/33 (2020.01)  
G06F 8/30 (2018.01)

(52) U.S. CL.

CPC ..... G06F 11/3664 (2013.01); G06F 8/30 (2013.01); G06F 8/71 (2013.01); G06F 11/3457 (2013.01); G06F 11/3668 (2013.01); G06F 30/33 (2020.01); G06F 9/455 (2013.01); G06F 2201/86 (2013.01)

(58) Field of Classification Search  
USPC ..... 703/2, 13, 22, 24, 27; 709/246  
See application file for complete search history.

(56) References Cited

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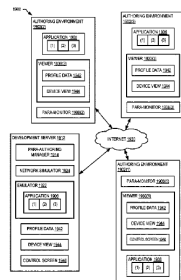
(Continued)

Primary Examiner — Thai Q. Phan  
(74) Attorney, Agent, or Firm — Sheridan Ross P.C.

(57) ABSTRACT

A system, method and software product emulate and profile an application playing on a mobile device. The mobile device is emulated using a model based upon characteristics related to performance of the mobile device. The application is played and monitored within the model to determine resource utilization of the application for the mobile device.

36 Claims, 23 Drawing Sheets



# The Specification Describes Physical and Non-Physical Mobile Devices

times the speed of the eCommerce market. It is estimated that nearly 700 million new mobile devices will be shipped in 2005, with a new handset model being launched every other day. This rapid mobile device development requires that applications designed to run on these mobile devices also sustain rapid development. Development systems targeted at

'192 Patent at 1:58-60

the targeted mobile device based upon resource usage. Currently, the only way to determine if an application plays on a particular mobile device is to transfer the application to the device and play it. During development of an application for

'192 Patent at 1:58-60

106 and a display 110. Emulator 101 generates a mobile device model 102, based upon mobile device characteristics 115 of mobile device 114. Model 102 emulates mobile device 114 to play frame based application 104 and may, for example, generate an emulated mobile device display 111 that represents mobile device 114. Emulated mobile device

'192 Patent at 4:58-62

In step 704, method 700 plays the application within an emulation of the mobile device. In one example of step 704, emulator 101 generates model 102 based upon characteristics 115 of mobile device 114 and then loads and plays application 104 within model 102.

'192 Patent at 9:54-58

“on the mobile device”

Claim Term	Wapp’s Proposed Construction	JPMC’s Proposed Construction
“on the mobile device” ('192 Patent, Claim 60)	Plain meaning.	Indefinite.

# "On the Mobile Device" is Not Indefinite

## (12) United States Patent Poulin

(10) Patent No.: US 8,924,192 B1  
(45) Date of Patent: \*Dec. 30, 2014

(54) SYSTEMS INCLUDING NETWORK SIMULATION FOR MOBILE APPLICATION DEVELOPMENT AND ONLINE MARKETPLACES FOR MOBILE APPLICATION DISTRIBUTION, REVENUE SHARING, CONTENT DISTRIBUTION, OR COMBINATIONS THEREOF

(71) Applicant: Wapp Tech Corp., Red Deer (CA)

(72) Inventor: Donovan Paul Poulin, Kelowna (CA)

(73) Assignee: Wapp Tech Corp., Red Deer (CA)

(\* ) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

This patent is subject to a terminal disclaimer.

(21) Appl. No.: 13/673,692

(22) Filed: Nov. 9, 2012

### Related U.S. Application Data

(63) Continuation of application No. 12/759,543, filed on Apr. 13, 2010, now Pat. No. 8,332,203, which is a continuation of application No. 11/449,958, filed on Jun. 9, 2006, now Pat. No. 7,813,910.

(60) Provisional application No. 60/689,101, filed on Jun. 10, 2005.

(51) Int. Cl. G06F 11/00 (2006.01)

(52) U.S. Cl. USPC 703/13; 703/24; 703/27; 709/206; 709/246; 715/771

(58) Field of Classification Search CPC G06F 11/3447; G06F 11/3457 USPC 703/13, 24, 27; 709/206, 246; 715/771 See application file for complete search history.

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Applicant Interview Summary, Appl. No. May 6, 2010, 10 Pages.

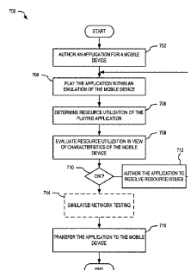
(Continued)

Primary Examiner — Thai Phan

## (57) ABSTRACT


A system and methods emulate an application executing in real time in a mobile device. The mobile device is emulated in real time using a model running on a processor extrinsic to the mobile device. The model is based on characteristics indicative of performance of the mobile device. The application is executed in real time within the model and the application executing in the model is monitored to determine resource utilization information by the application for the mobile device. The resource utilization information for the mobile device is displayed.

69 Claims, 14 Drawing Sheets



60. A system comprising:  
an application configured to enable a user to modify a photo on the mobile device, wherein the application is developed using a software authoring platform configured to simultaneously visually emulate, via one or more profile display windows, a plurality of hardware characteristics indicative of performance of the mobile device when executing the application.



- 
- The term “the wire clamp” appeared for the first time in dependent claim 5 with no prior antecedent basis.
  - Court: “The context provided by the specification makes plain what ‘the wire clamp’ is, despite the absence of that claim term from independent claim 1 from which claim 5 depends, such that the scope of the claim is reasonably ascertainable by a person of ordinary skill in the art.” *Id.* at \*100
  - “[T]he Court finds that the claim term does not require ‘judicial correction’ because it means ‘a wire clamp included in the base that holds the electrical wires in contact with the conductor.’” *Id.* at \*100-101.



Dr. Sam Malek

Wapp's Expert

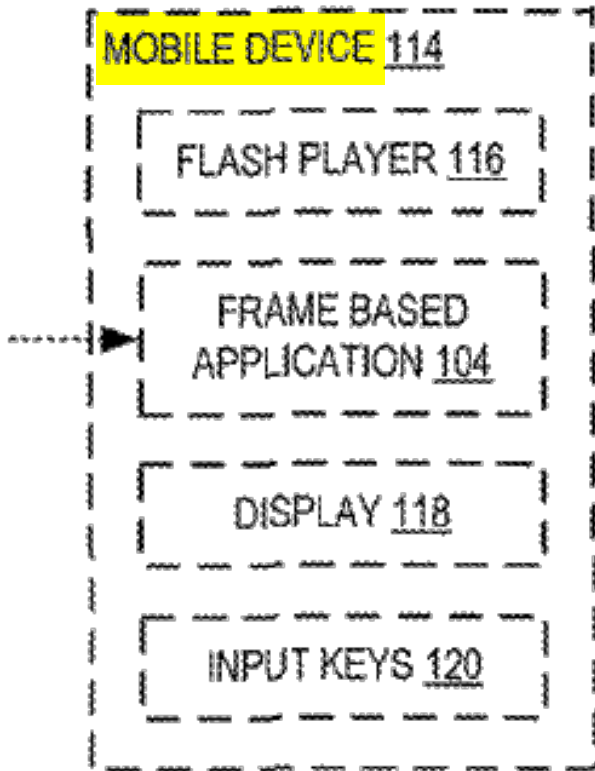
“It is apparent from the context of the claim that both instances of “the mobile device” refer to the same thing, *i.e., the first instance of ‘the mobile device’ provides antecedent basis for the second instance.* This is the only reasonable way to interpret the claim, and this is how a POSITA would interpret it.”

Malek Dec. (Ex. 8) at ¶¶ 133-34.

Dr. Malek provides multiple examples where the “specification repeatedly discloses the concept of developing an application for a mobile device.”

Malek Dec. (Ex. 8) at ¶¶ 136-141.

# Example Specification Teachings



In one embodiment, a method emulates and profiles an application to play on a **mobile device** that includes a Flash Player. Characteristics defining performance of the **mobile device** are loaded. The **mobile device** is emulated using a model based upon the characteristics. The application is played and monitored within the model to determine resource utilization of the application for the **mobile device**.

FIG. 1A shows one exemplary embodiment of a system for emulating, authoring and visually profiling an application playing on a **mobile device** that includes a Flash Player.

“Mobile device” appears 180 times in the ‘192 Patent and appears in every asserted claim.

# Example Specification Teachings

graphical images for display 111. Where each frame of frames 223 includes multiple graphic elements and/or action scripts that involve image manipulation (e.g., retrieving data from non-volatile storage, Avatar manipulations, animations, etc.), each frame may require differing resources in order to display correctly. For example, where a frame includes Avatar (e.g., an animated character) manipulation, a certain amount of processor resource is required, whereas a frame that is based upon movie file 224 may simply require data transfer time. If mobile device 114 has insufficient processor resources (e.g., because the animation is too complex for the targeted mobile device), application 104 may crash (i.e., cease to function correctly). Thus, it is important to determine the ‘stress’ applied by application 104 to resources of mobile device 114.



# Alternatively, the Court can Correct “the” to “a”

“A district court may correct ‘obvious minor typographical and clerical errors in patents.’ ...

Correction is appropriate ‘only if

- (1) the correction is not subject to reasonable debate based on consideration of the claim language and the specification and
- (2) the prosecution history does not suggest a different interpretation of the claims.’”

*Pavo Sols. LLC v. Kingston Tech. Co.*, 35 F.4th 1367, 1373 (Fed. Cir. 2022).

# “the connection simulation”

Claim Term	Wapp’s Proposed Construction	JPMC’s Proposed Construction
“the connection simulation” (‘192 Patent, Claim 4)	Plain meaning.	Indefinite.

# "The Connection Simulation" has Explicit Antecedent Basis

(12) **United States Patent**  
**Poulin**

(10) **Patent No.:** US 8,924,192 B1  
(45) **Date of Patent:** \*Dec. 30, 2014

(54) **SYSTEMS INCLUDING NETWORK SIMULATION FOR MOBILE APPLICATION DEVELOPMENT AND ONLINE MARKETPLACES FOR MOBILE APPLICATION DISTRIBUTION, REVENUE SHARING, CONTENT DISTRIBUTION, OR COMBINATIONS THEREOF**

(71) Applicant: **Wapp Tech Corp., Red Deer (CA)**  
(72) Inventor: **Donavan Paul Poulin, Kelowna (CA)**  
(73) Assignee: **Wapp Tech Corp., Red Deer (CA)**

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(22) Filed: Nov. 9, 2012

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(60) Provisional application No. 60/689,101, filed on Jun. 10, 2005.

(51) **Int. Cl.**  
**G06F 11/00** (2006.01)

(52) **U.S. Cl.**  
USPC ..... 703/13; 703/24; 703/27; 709/206; 709/246; 715/771

(58) **Field of Classification Search**  
CPC ..... G06F 11/3447; G06F 11/3457  
USPC ..... 703/13, 24, 27; 709/206, 246; 715/771  
See application file for complete search history.

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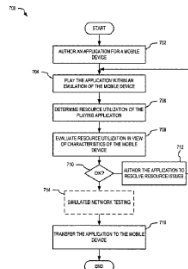
(Continued)

Primary Examiner — Thai Phan

## ABSTRACT

A system and methods emulate an application executing in real time in a mobile device. The mobile device is emulated in real time using a model running on a processor extrinsic to the mobile device. The model is based on characteristics indicative of performance of the mobile device. The application is executed in real time within the model and the application executing in the model is monitored to determine resource utilization information by the application for the mobile device. The resource utilization information for the mobile device is displayed.


69 Claims, 14 Drawing Sheets



2. The system of claim 1, wherein the software authoring interface is configured to enable a user to select from **one or more connection simulations** for testing how well mobile content performs on the mobile device.

4. The system of claim 2, wherein **the connection simulation** includes one or more profiles.

# Baldwin is Controlling Law



That ‘a’ or ‘an’ can mean ‘one or more’ is best described as a rule, rather than merely as a presumption or even a convention. ... The *subsequent use of definite articles ‘the’* or ‘said’ in a claim to refer back to the same claim term does not change the general plural rule, but *simply reinvokes that non-singular meaning*. ... Because the initial indefinite article (‘a’) carries either a singular or plural meaning, any later reference to that same claim element merely reflects the same potential plurality.”

*Baldwin Graphic Sys., Inc. v. Siebert, Inc.*, 512 F.3d 1338, 1342 (Fed. Cir. 2008).

- “the connection simulations” refers to the claimed “one or more connection simulations.”



# “system for [testing/developing] an application for a mobile device”

Claim Term	Wapp’s Proposed Construction	JPMC’s Proposed Construction
<b>“system for [testing/developing] an application for a mobile device”</b> (‘192 Patent, Claim 1; ‘864 Patent, Claim 1; ‘678 Patent, Claim 1)	The preamble is limiting; Plain meaning.	Not limiting.



(10) **Patent No.:** US 9,298,864 B2  
(45) **Date of Patent:** \*Mar. 29, 2016

“the monitored resource”

Claim Term	Wapp’s Proposed Construction	JPMC’s Proposed Construction
“the monitored resource” (‘579 Patent, Claims 15, 27)	Plain meaning.	Indefinite.

# '579 Claim 15



US010691579B2

## (12) United States Patent Poulin

(10) Patent No.: US 10,691,579 B2  
(45) Date of Patent: Jun. 23, 2020

### (54) SYSTEMS INCLUDING DEVICE AND NETWORK SIMULATION FOR MOBILE APPLICATION DEVELOPMENT

(71) Applicant: Wapp Tech Corp., Red Deer (CA)

(72) Inventor: Donovan P. Poulin, Kelowna (CA)

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G06F 9/455 (2018.01)  
G06F 11/36 (2006.01)  
G06F 8/71 (2018.01)  
G06F 11/34 (2006.01)  
G06F 30/33 (2020.01)  
G06F 8/50 (2018.01)

### (52) U.S. CL.

G06F 11/3664 (2013.01); G06F 8/30 CPC (2013.01); G06F 8/71 (2013.01); G06F 11/3457 (2013.01); G06F 11/3668 (2013.01); G06F 30/33 (2020.01); G06F 9/455 (2013.01); G06F 2201/86 (2013.01)

(58) Field of Classification Search  
USPC 703/2, 13, 22, 24, 27; 709/246  
See application file for complete search history.

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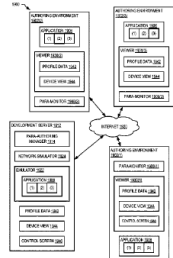
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Primary Examiner — Thai Q Phan  
(74) Attorney, Agent, or Firm — Sheridan Ross P.C.

### (57) ABSTRACT

A system, method and software product emulate and profile an application playing on a mobile device. The mobile device is emulated using a model based upon characteristics related to performance of the mobile device. The application is played and monitored within the model to determine resource utilization of the application for the mobile device.

36 Claims, 23 Drawing Sheets



15. A non-transitory, computer-readable medium comprising software instructions for developing an application to be run on a mobile device, wherein the software instructions, when executed, cause a computer to:

select one or more characteristics associated with a mobile device;

monitor utilization of one or more resources of the mobile device over time by an application running on a simulation of the mobile device;

display a representation of one or more of the monitored resource;



# Baldwin is Controlling Law

“The *subsequent use of definite articles ‘the’ or ‘said’* in a claim to refer back to the same claim term does not change the general plural rule, but *simply reinvokes that non-singular meaning.*”

*Baldwin Graphic Sys., Inc. v. Siebert, Inc.*, 512 F.3d 1338, 1342 (Fed. Cir. 2008).

- “the monitored resource” refers to the claimed “one or more resources” that are being monitored.